

REMARKS

Reconsideration is respectfully requested.

Claims 1 through 7, 9 through 11, 19 through 20, 23 through 24, and 29 through 30 remain in this application. Claims 8, 12 through 18, 21, 22, 25 through 28 and 31 were previously cancelled without prejudice. No claims have been withdrawn. Claims 32 through 47 have been added in this preliminary amendment.

Previously Pending Claims

Claims 1 through 7, 9 through 11, and 19 through 31 have been rejected under 35 U.S.C. §102(e) as being anticipated by Pertrushin (6,275,806). (Claims 21, 22, and 24 through 28 have previously been cancelled.)

The "Declaration under 37 CFR §1.131" of the applicant, Glen John Anderson, submitted with the previous Response on October 8, 2003, is withdrawn without prejudice as it is believed that the claimed invention is distinguishable over the patent relied upon in the rejection of the final Office Action of January 14, 2004. Applicant respectfully reserves the option to reintroduce the Declaration with further supportive information.

Claim 1 requires, in part, "means for changing the operation of the application program responsive to the apparent affective state of the user". Similarly, independent claim 19 requires "means for changing the operation of the application program responsive to the emotional state of the user".

The Pertrushin patent is relied upon in the rejection of the claims of the application, and in particular, the Office Action makes reference to two sections of the Pertrushin patent as teaching the above-noted requirement of

claim 1. The first cited section of Pertrushin, at col. 47, lines 50 through 62, states:

In another embodiment of the present invention described in FIG. 28, emotion is detected in the voice signals of the person. Here, the predetermined criteria could include emotion-based criteria designed to help detect smuggling and other illegal activities as well as help catch persons with forged documents. For example, fear and anxiety could be detected in the voice of a person as he or she is answering questions asked by a customs officer, for example. Another of the emotions that could be detected is a level of nervousness of the person. See the previous sections about detecting emotion in voice signals for more detail on how such an embodiment works.

However, this portion of the Pertrushin patent does not identify any change in the operation of an application program, and thus would not lead one of ordinary skill in the art to understand that the Pertrushin patent includes any "means for *changing* the operation of the application program *responsive to* the apparent affective state of the user", as is required by claim 1 (emphasis added).

The other cited section of the Pertrushin patent relied upon in the rejection in the Office Action is at col. 43, lines 15 through 40, which states:

Allowing the voice scan to include more than one phrase also allows identity verification by comparing alternate phrases, such as by prompting the user to speak an additional phrase if the identity of the user is not verified with a first phrase. For example, if the user's voice sample almost matches the voice scan, but the discrepancies between the two are above a predetermined threshold, the user can be requested to speak another phrase, which would also be used to verify the identity of the user. This would allow a user more than one opportunity to attempt to access the data, and could be particularly useful for a user who has an illness, such as a cold, that slightly alters the user's voice. Optionally, the voice sample of the user and/or a time and date the voice sample was received from the user may be recorded.

With reference to operation 2106 of FIG. 21, an exemplary embodiment of the present invention is of a system and method for establishing a positive or negative identity of a speaker which employ at least two different voice authentication devices and which can be

used for supervising a controlled access into a secured-system. Specifically, the present invention can be used to provide voice authentication characterized by exceptionally low false-acceptance and low false-rejection rates.

Similarly, this portion of the Pertrushin patent leaves one wondering what part of the operation of the Pertrushin system is "changed" in response to the "apparent affective state" of the user, as implied in the Office Action. Even if one were to take the position that the portion of Pertrushin quoted above that states that "prompting the user to speak an additional phrase if the identity of the user is not verified with a first phrase" somehow discloses a change in the operation of the Pertrushin system, it is apparent from this discussion that there is no connection between any "apparent affective state" of the user and the request by the Pertrushin system for the user to speak an additional phrase. Clearly, if the user is prompted to speak another phrase by the Pertrushin system, it is not reacting to the identification of any affective state or emotion in the user's speech, but instead to a variation of the user's voice at this instance as compared to an earlier recorded instance of the user's voice. In this instance, the Pertrushin system is merely comparing the voice of someone alleging to be the user to the user's prerecorded or previously analyzed voice to verify the person's identity, and not any emotion of the person.

It is therefore submitted that the Pertrushin patent would not lead one of ordinary skill in the art to the applicant's claimed invention as defined in claims 1 and 19, especially with the requirements set forth above, and therefore it is submitted that claims 1 and 19 are allowable over the prior art. Further, claims 2 through 7, which depend from claim 1, and claims 20, 23, 24, 29 and 30, which depend from claim 19, also include the requirements discussed above and therefore are also submitted to be in condition for allowance.

It is further noted that claim 6 requires, particularly as amended, "said means for changing the operation of the application program comprises means for marking text input by the user if the apparent affective state of the user indicates that the text input by the user should be marked". It is alleged in the Office Action that "the user password is displayed user text column 47 lines 3-22". However, the Pertrushin patent states at col. 47, lines 3 through 22, that:

Thus, only if both security-center 2424 and secured-system 2422 have established positive voice verification, the speaker has been positively identified and the process has been positively completed and access to secured-system 2422 is, therefore, allowed, as indicated by 2744.

If one of the systems 2422 and 2424 fails to verify the speaker's voice, the process has not been positively completed and access to secured-system 2422 is, therefore, denied.

Voice Based System for Regulating Border Crossing

FIG. 28 depicts a method for determining eligibility of a person at a border crossing to cross the border based on voice signals. First, in operation 2800, voice signals are received from a person attempting to cross a border. The voice signals of the person are analyzed in operation 2802 to determine whether the person meets predetermined criteria to cross the border. Then, in operation 2804, an indication is output as to whether the person meets the predetermined criteria to cross the border. A more detailed description of processes and apparatuses to perform these operations is found below.

Nothing in this portion of the Pertrushin patent mentions a user password, and more importantly, nothing suggests that any text is marked based upon a user's apparent affective state. It is therefore submitted that the Pertrushin patent does not anticipate the requirements of claim 6.

Also, claim 30 requires that "the means for monitoring characteristics of the user includes means for monitoring a force exerted by the user on a manual input device as the user inputs text". In the Office Action, it is asserted that the Pertrushin patent that "the user's physical use of the input

device is used", and refers to the Pertrushin patent at col. 29, lines 20 through 55 as supporting this statement. This portion of Pertrushin patent states:

In more detail, FIG. 14 illustrates a speech recognition system where speech signals from microphone 1418 and bio-signals from bio-monitor 1430 are received by preprocessor 1432. The signal from bio-monitor 1430 to preprocessor 1432 is a bio-signal that is indicative of the impedance between two points on the surface of a user's skin. Bio-monitor 1430 measures the impedance using contact 1436 which is attached to one of the user's fingers and contact 1438 which is attached to another of the user's fingers. A bio-monitor such as a bio-feedback monitor sold by Radio Shack, which is a division of Tandy Corporation, under the trade name (MICRONATA.RTM. BIOFEEDBACK MONITOR) model number 63-664 may be used. It is also possible to attach the contacts to other positions on the user's skin. When user becomes excited or anxious, the impedance between points 1436 and 1438 decreases and the decrease is detected by monitor 1430 which produces a bio-signal indicative of a decreased impedance. Preprocessor 1432 uses the bio-signal from bio-monitor 1430 to modify the speech signal received from microphone 1418, the speech signal is modified to compensate for the changes in user's speech due to changes resulting from factors such as fatigue or a change in emotional state. For example, preprocessor 1432 may lower the pitch of the speech signal from microphone 1418 when the bio-signal from bio-monitor 1430 indicates that user is in an excited state, and preprocessor 1432 may increase the pitch of the speech signal from microphone 1418 when the bio-signal from bio-monitor 1430 indicates that the user is in a less excited state such as when fatigued. Preprocessor 1432 then provides the modified speech signal to audio card 1416 in a conventional fashion. For purposes such as initialization or calibration, preprocessor 1432 may communicate with PC 1410 using an interface such as an RS232 interface. User 1434 may communicate with preprocessor 1432 by observing display 1412 and by entering commands using keyboard 1414 or keypad 1439 or a mouse.

While this portion of the Pertrushin patent discusses changes in the impedance of a person's skin, there is absolutely nothing here that mentions or suggests any "means for monitoring a force exerted by the user on a manual input device as the user inputs text". One skilled in the art recognizes that structures for detecting the impedance of the skin of a person is not capable of "monitoring a force exerted by the user on a manual

input device as the user inputs text". Therefore, the Pertrushin patent would not lead one of ordinary skill in the art to the requirements of claim 30.

With respect to claim 9, which requires, in part, "accepting text input from the writer", "determining the apparent emotional state of the writer", and "marking the text accepted from the writer if the apparent emotional state of the writer indicates that the text should be marked".

As noted above with respect to claim 6, nothing in the Pertrushin patent discloses or suggests that the Pertrushin patent is capable of marking any text, especially based upon the apparent emotional state of the writer. The Pertrushin patent is directed to voice technology, and does not disclose any marking of text based upon on the state of the writer. Therefore, it is submitted that the Pertrushin patent could not lead one of ordinary skill in the art to the requirements of claim 9.

Withdrawal of the §102(e) rejection of claims 1 through 7, 9 through 11, 19, 20, 23, 24, 29, and 30 is therefore respectfully requested.

Added Claims

Added claim 32 requires that "the means for determining the apparent affective state of the user comprises a manual input device capable of measuring a degree of force applied by the user to the manual input device", which is discussed on page 8, lines 28 et seq. of the application. It is submitted that this requirement is foreign to the disclosure of the Pertrushin patent, which is directed to analysis of the voice of a person, and not to any physical exertion on a device that might indicate an apparent affective state of the person.

Added claim 33 requires that "the manual input device comprises a keyboard capable of measuring force applied by the user to a key on the

keyboard” and added claim 34 requires that “the manual input device comprises a computer mouse capable of measuring force applied by the user to a button on the mouse”, which is disclosed at page 8, lines 29 through 30 of the applicants’ specification. These requirements are also submitted to be contrary to the discussion in the Pertrushin patent, as the claim requirements do not involve the analysis of the voice of a person.

Added claim 35 requires that “the means for determining the apparent affective state of the user comprises means for analyzing aspects of speech of the user” (discussed at page 9, lines 6 et seq. of the application), and added claim 36 requires that “the means for analyzing aspects of speech includes means for measuring the timing of utterance of the voice of the user” (page 9, line 10), added claim 37 requires that “the means for analyzing aspects of speech includes means for measuring the quality of the voice of the user” (page 9, line 9) and added claim 38 requires that “the means for analyzing aspects of speech includes means for measuring the utterance pitch contour of the voice of the user” (page 9, line 11). It is submitted that the Pertrushin patent would not lead one of ordinary skill in the art to the detail of the voice analysis set forth in these claims.

Added claim 39 requires that “the means for determining the apparent affective state of the user comprises means for measuring autonomic responses of the user” (set forth on page 9, lines 15 et seq. of the application), and added claim 40 requires that “the means for measuring autonomic responses of the user comprises means for measuring characteristics of the skin of the user” (page 9, line 16). Added claim 41 requires that “the means for measuring autonomic responses of the user comprises means for measuring characteristics of the eye of the user” (discussed at page 9, lines 24 et. seq. of the application), added claim 42 requires that “the means for measuring characteristics of the eye of the user measures dilation of the eye of the user” (page 9, line 24) and added claim

43 requires that "the means for measuring characteristics of the eye of the user measures a rate at which the user blinks the eye" (page 9, line 25). These requirements, in combination with the requirements of claim 1, are submitted not to be anticipated by the Pertrushin patent. The Pertrushin patent is completely silent as to any characteristics of the eyes of the user.

Further, added claim 44 requires that "the means for determining the apparent affective state of the user comprises means for analyzing facial expressions of the user" (disclosed at page 10, lines 1 et seq.) and added claim 45 requires that "the means for analyzing facial expressions of the user comprises a video camera" (page 10, lines 1 et seq.). It is submitted that the focus in the Pertrushin patent would only lead one of ordinary skill in the art away from these requirements of the features of the claimed invention. Somewhat similarly, added claim 46 requires that "the means for determining the apparent affective state of the user comprises means for analyzing gestures of the user" (discussed at page 9, lines 24 et seq.), which is also foreign to the voice analysis advocated in the Pertrushin patent. The Pertrushin patent lacks any disclosure of utilization of a person's expressions or gestures to determine a person's emotional state.

Added claim 47 requires that "the means for determining the apparent affective state of the user comprises means for detecting marking by the user of text entered by the user", which is disclosed at page 8, lines 8 et seq. of the present application. This feature of the claimed invention is also quite strange to the system discussed in the Pertrushin patent.

Allowance of the added claims is therefore respectfully requested.

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CONCLUSION

In light of the foregoing amendments and remarks, early reconsideration and allowance of this application are most courteously solicited.

Respectfully submitted,

GATEWAY, INC.



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Jeffrey A. Proehl (Reg. No. 35,987)
LEONARD & PROEHL, Prof.L.L.C.
3500 South First Avenue Circle, Suite 250
Sioux Falls, SD 57105-5807
(605)339-2028 FAX (605)336-1931